

Application No.: 10/787,221

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OCT 09 2007

Amendments to the Claims:

This listing of the claims will replace all prior versions and listings of claims in the application:

1 (Currently Amended): A transmission component incorporated into a transmission capable of changing a rotational speed of an output shaft relative to a rotational speed of an input shaft by means of mesh of toothed wheels, said component having a nitriding layer formed by a carbonitriding process at a surface layer, [[and]] an austenite grain with a grain size number falling within a range exceeding 10, and a non-diffusible hydrogen content of at most 0.5 ppm.

2 (Original): The transmission component according to claim 1, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a tapered roller bearing.

3 (Original): The transmission component according to claim 1, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a needle roller bearing.

4 (Original): The transmission component according to claim 1, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a ball bearing.

5 (Currently Amended): A transmission component incorporated into a transmission capable of changing a rotational speed of an output shaft relative to a rotational speed of an input shaft by means of mesh of toothed wheels, said component having a nitriding layer formed by a carbonitriding process at a surface layer, [[and]] a fracture stress value of at least 2650 MPa, and a non-diffusible hydrogen content of at most 0.5 ppm.

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6 (Original): The transmission component according to claim 5, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a tapered roller bearing.

7 (Original): The transmission component according to claim 5, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a needle roller bearing.

8 (Original): The transmission component according to claim 5, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a ball bearing.

9 (Currently Amended): A transmission component incorporated into a transmission capable of changing a rotational speed of an output shaft relative to a rotational speed of an input shaft by means of mesh of toothed wheels, said component having a nitriding layer formed by a carbonitriding process at a surface layer, and a non-diffusible hydrogen content of at most 0.5 ppm.

10 (Original): The transmission component according to claim 9, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a tapered roller bearing.

11 (Original): The transmission component according to claim 9, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a needle roller bearing.

12 (Original): The transmission component according to claim 9, provided in a form of a rolling bearing rotatably supporting said input shaft, said output shaft, or each of said toothed wheels, said rolling bearing being a ball bearing.

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13 (Withdrawn): A method of manufacturing a transmission component incorporated into a transmission capable of changing a rotational speed of an output shaft relative to a rotational speed of an input shaft by means of mesh of toothed wheels, wherein

said component is formed at least by carbonitriding steel for a bearing's component at a temperature higher than an A_1 transformation point and then cooling the steel to a temperature lower than the A_1 transformation point and subsequently reheating the steel to a range of temperature of no less than the A_1 transformation point and less than said temperature applied to carbo-nitride the steel, and quenching the steel.

14 (Withdrawn): The method of manufacturing the transmission component according to claim 13, wherein said range of temperature at which the quenching begins is 790°C to 830°C.

15 (Currently Amended): A tapered roller bearing having an inner ring, an outer ring, and a tapered roller, wherein at least any one of said inner ring, said outer ring and said tapered roller has a nitriding layer formed by a carbonitriding process, [[and]] an austenite grain with a grain size number falling within a range exceeding 10, and a non-diffusible hydrogen content of at most 0.5 ppm.